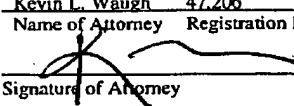


Patent
7408**Certification of Facsimile Transmission**

I hereby certify that this correspondence is being facsimile transmitted to the Commissioner for Patents in the US Patent and Trademark Office (703) 872-9306 on January 20, 2004.

Kevin L. Waugh 47,206
Name of Attorney Registration No.


Signature of Attorney

IN THE UNITED STATES PATENT & TRADEMARK OFFICE

Applicant: Elizabeth Ann Alum, et al : Paper No. 10
Serial No.: 09/890,672 : Group Art Unit: 1751
Filing Date: August 3, 2001 : Examiner: Brian P. Mruk
Docket No.: : 7408
Confirmation No.: : 6625
For: DIOLS AND POLYMERIC GLYCOLS IN DISHWASHING DETERGENT COMPOSITIONS

DECLARATION UNDER 37 C.F.R. § 1.132

Mail Stop RCE
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

I, Howard D. Hutton, III, declare as follows under penalty of perjury.

1. I received a B.S. degree in Chemistry from the Edinboro University of Pennsylvania at Edinboro, Pennsylvania, and a PhD in Chemistry from The Ohio State University in 1993.

2. I am employed as a Principle Scientist by The Procter & Gamble Company, and have been working at Procter & Gamble for ten years. My work in graduate school and at Procter & Gamble has focused on designing products containing surfactants, bleaches, solvents, enzymes and many

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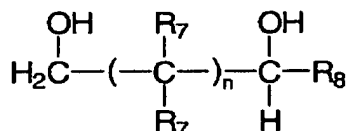
Application No. 09/890,672

Declaration date: January 20, 2004

Reply to Final Office Action of October 17, 2003

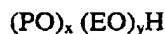
other typical cleaning technologies. I published a number of papers in graduate school relating to surface chemistries.

3. I am one of the inventors of the subject matter of the above-identified application.
4. The area being investigated which lead to the instant invention, was that a single variable addition of one or more of the following:
- (a) a diol, represented by the formula:



wherein $n = 0-3$, $\text{R}_7 = \text{H}$, methyl or ethyl; and $\text{R}_8 = \text{H}$, methyl, ethyl, propyl, isopropyl, butyl and isobutyl; or

- (b) a polymeric glycol, represented by the formula:



wherein PO represents a propylene oxide group and EO represents an ethylene oxide group and $x+y$ is from 17 to 68, and $x/(x+y)$ is from 0.25 to 1.0,

to a light duty liquid (LDL) dishwashing detergent composition matrix provides unexpected and significant improvement in protease enzyme stability. The enzyme stability benefit is significant at both ambient and stressed (high) temperatures.

5. Without being limited by theory, it is believed that a diol and/or a propylene glycol provides enzyme-stabilizing benefits by limiting the activity of enzymes in the LDL dishwashing composition during storage. Enzymes require water for optimal performance, thus deactivation is accomplished by reducing the amount of free water interacting with the enzyme by displacing a portion of the water with the diol and/or propylene glycol, which are completely miscible with water. Upon use, the LDL dishwashing composition is significantly diluted with water, thus providing the enzyme with a water environment conducive to optimal activity and performance.

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6. The following table shows data with improved enzyme stability using propylene glycol:

Formula Components	LDL	LDL + Propylene Glycol
NaC12-13 AE0.6S (Sodium Alkyl Ethoxy Sulfate)	26.1	26.1
Amine Oxide (C12-13 Alkyl Di-methyl amine oxide)	6.5	6.5
Nonionic Surfactant (C11E9)	3.0	3.0
Diamine (1,3-Bis-amino-ethyl cyclohexane)	0.5	0.5
Sodium Cumene Sulfonate	1.5	1.5
Polypropylene Glycol	1.0	1.0
Sodium Chloride	0.5	0.5
Ethanol	7.0	--
Propylene Glycol	—	10.0
Water	balance	balance
Protease Stability @ 32C (% protease remaining after...)		
2 Weeks	79%	96%
4 Weeks	70%	83%
6 Weeks	55%	68%
12 Weeks	43%	55%
Protease Stability @ 21C (% protease remaining after...)		
4 Weeks	83%	100%
12 weeks	72%	93%



Howard David Hutton

Jan 20, 2004

Date

January 20, 2004

Customer No.: 27752

7408 Hutton Declaration.doc